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DISSEMINATING AND USING RESEARCH REPORTS.

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The authors offer some practical guidelines in four areas of rehabilitation research information dissemination: (1) filing and retrieval problems; (2) level and styles of writing, listing, abstracting, summarizing, and reconceptualizing; (3) profiling the average practitioner-consumers; and (4) leveling attitudinal barriers. Filing and retrieval problems may be alleviated by the use of authorship and publications specifications; multiple indexing, specifying background information; and use of electronic retrieval systems. Research jargon should be translated into English. A need exists for publications which periodically consolidate the information presented in original research reports. The needs and capabilities of the practitioner-consumer should be profiled. The authors suggest five research possibilities to determine the gap between the ideal model and the average professional. Attitudinal barriers, such as lack of motivation, distrust of research findings, and incorporation of new ideas dysfunctional to the agency and the individual, should be eliminated. (WR)

DISSEMINATING AND USING RESEARCH REPORTS

Robert P. Overs and Ann B. Trotter

There has been increasing concern with the fact that the utilization of rehabilitation research knowledge has failed to keep pace with the production of research findings. This concern is evident in a major VRA-sponsored research project (Glaser, 1965, 1966, 1967), a number of top level conferences (Usdane, 1967) and a number of significant journal articles (Licklider, 1966; Marquis, & Allen, 1966; Menzel, 1966; Parker, & Paisley, 1966; Price, & Beaver, 1966; Siegmann, & Griffith, 1966; and Swanson, 1966). The modest intent of this article is to supplement this high level thinking with some mundane and practical suggestions for better use of research findings.

There are at least four approaches to improving the dissemination of research findings: (a) Analyzing and resolving information, classification, filing, and retrieval problems; (b) Analyzing and improving the communication styles in which research findings are presented; (c) Analyzing and understanding the needs and capabilities of the practitioner consumer; and (d) Analyzing and removing attitudinal barriers to the dissemination of research findings.

Research Information Filing and Retrieval Problems

In addition to the usual retrieval problems of any body of knowledge, rehabilitation information presents additional problems because it is prepared

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and published not only by a variety of professionals, but also as it displays rather unique structural forms in respect to authorship. An idea may have originated with a subcommittee attached to a national professional organization, been funded by a government body, and been carried out at a rehabilitation center affiliated with a university. Even more complicated relationships emerge when research is carried on cooperatively by two parallel organizations.

The resulting anarchy in style makes filing and retrieval of rehabilitation information much more difficult than is necessary. Standardization of format is required and could be achieved through agreement of national professional organizations and of major private and public grantors publishing in the field of rehabilitation. At present various publications such as journals require specific formats. Little uniformity is, however, evident from one source to another; both authors and readers are readily confused by this state of affairs. Adoption of a specific publication style, such as that offered by the American Psychological Association (1967) should simplify both professional writing and reading.

The following rules should be helpful in making rehabilitation research more useable:

1. Publications are written by people, not organizations. Organizations and committees may be short-lived and trying to locate publications authored by them is often discouraging. The name and address of the senior author should always be given; references should be entered in bibliographies under his name. If the project ends and he moves, he can still be located through the directory of the professional discipline with which he is associated. Indication of the

author's professional identification would facilitate locating him in the appropriate membership directory. In the unfortunate even that the author is deceased or unable to answer his mail, a supplementary reference should be given to a permanent organization which can take over the distribution.

2. A temporary organization within a large university should never be used as the sole author citation, either on the title page or in bibliographies. After the grant ends, the memory of such temporary organizations is of short duration.

3. Pamphlets and other publications too thin to stand upright on a shelf should be small enough to fit in a 9x12 inch file folder in a vertical file. Materials can then be retrieved from one of only two places: the shelf or the file. Eliminate oversized publications which wind up stacked in a pile!

4. Publications thick enough to stand upright on a shelf should be made a standard height and width, preferably 8-1/2 x 11 inches, the most common paper size used. Such publications should not exceed a maximum thickness of one inch. Since thick volumes slow down scanning and note taking, longer reports should be divided into two or more volumes.

5. Publications thick enough to stand upright on shelves should have the titles on the edge of the publication as well as on the cover page so that they can be readily located when shelved. The title position should be standardized so that all titles can be read from one direction.

6. Since no standard indexing or filing code is in universal use in the field, a stop-gap measure is for each author to code his work under as many

of the several systems in use as he can. Some of the available classifications are: (a) Abstracts for Social Workers; (b) Dewey Decimal System; (c) Excerpta medica: rehabilitation; (d) International Decimal System; (e) Library of Congress; (f) Portal, Cataloging rehabilitation literature;(g) Psychological Abstracts; (h) Rehabilitation Literature; (i) Riviere, Rehabilitation codes; (j) Selective Index to Health Literature; (k) Sociological Abstracts; and (l) Vocational Rehabilitation Administration, Research and demonstration projects: an annotated listing.

7. An amazing amount of mimeographed and multilithed material in rehabilitation contains neither a date, a project number, nor a useable mailing address for obtaining additional copies or more information. Provision of such information should make research reports more readily identifiable and hopefully more usable.

8. The publication date and the time span during which the research was done should always be given. Orderly relationships should be indicated between final reports and later progress reports. Both final reports and later progress reports should refer to earlier progress reports, indicating briefly what they cover and whether the later repotts cover substantially all of the material in the earlier reports.

9. There are two major uses of published material: reading and reference. These two needs conflict with each other. A reference copy should always be readily available for use in seeking the solution to an immediate case problem, writing a report or paper, or preparing a speech. The reading or circulation copy, once loaned to the staff, is not readily available because it goes on vacation with the staff, stays home on sick leave with staff members, or gets lost temporarily

at the bottom of a stack of material. To meet both needs, it is desirable for every sizeable organization to be furnished with two copies of a repott: one for reading and one for reference.

Eventually, large scale storage and retrieval systems will be in operation aided by electronic data processing equipment. Congress has authorized the Vocational Rehabilitation Administration to establish and operate "...a national information service in rehabilitation, using modern automated data equipment, to collect, store, analyze, retrieve and disseminate information on the federal-state program, research, training, prosthetics and orthotics, centers and workshops and so on as a service to agencies and individuals (Usdane, 1967,p.68)." Some rehabilitation information will be stored in libraries in related fields. These will include the Education Research Information Center sponsored by the U.S. Office of Education (ERIC). One of the ERIC subcenters, at Ann Arbor, Michigan, contains material related to counseling (Counseling and Personnel, 1967). Medical aspects of rehabilitation will be found in the National Library of Medicine, Bethesda, Maryland (Medlars).

Retrieval of information from these systems is not without its problems. Successful retrieval depends on identifying the stored material by keywords which permit the retriever to locate the material and only the material in which he is interested. Many irrelevant items are retrieved because the author and searcher impute different meanings to the keywords. On the other hand, essential material often is not retrieved because the searcher does not know the magic keywords. Increasing the number of keywords (tags) may be one solution. In

some cases up to 20 tags or an average of 10 per article have been assigned. (Hogan, 1966) Even with electronic data equipment at one's disposal, the painful exercise of thinking still remains.

Levels and Styles of Communication

As often has been said, research findings should be translated from research jargon into English. It is frequently overlooked, however, that the writers of research reports are under pressure from their peers to use highly technical jargon. The fact that a research project found out nothing can be skillfully covered up with a flashy display of the jargon currently in vogue. The null hypothesis" is the classic example of awkward phraseology so ingrained in professional useage that the writer who avoids it is sometimes subject to criticism. It is likely that manuscripts submitted for publication are sometimes rejected because they do not reduce the editor's choice anxiety with the ritual of familiar technical words and phrases.

As has been pointed out, there is a need for publications which periodically consolidate the information presented in original research reports. These are one step removed from original reports. There are at least eight levels in this kind of reporting.

Level	Example
1. A simple listing of research abstracts classified by subject area.	Vocational Rehabilitation Administration, Research and demonstration projects, an annotated listing.

Level	Example
2. Extended abstracts	Trotter, A.B., Development and evaluation of rehabilitation research media.
3. A brief discussion of major trends during a given period of years in the various sub-divisionswithin a field.	Johnesse, Rehabilitating the mentally ill.
4. A substantial review of the field for a given period.	Gage, N.L. (Ed.), Handbook of research on teaching.
5. A substantial review of the field but written by different authors with varying and sometimes conflicting viewpoints	Buros, O. (Ed.), The mental measurement yearbooks, textbooks
6. The assimilation of the major findings into a meaningful pattern (hopefully).	
7. The assimilation of a variety of research findings into propositions.	Collins and Guetzkow, A social psychology of group processes for decision making.
8. A conceptual reorganization of basic field data. Some call this original research.	Homans, The human group.

The Needs and Capabilities of the Practitioner Consumer

There is little empirical information on the needs and capabilities of the rehabilitation practitioner. One brief study by Rusalem (1966) surveyed the readers of Rehabilitation Literature to find out to what rehabilitation journals they subscribed, regularly read, and why.

Actually, we know little about the reading and knowledge pursuit habits of the professional population which research reports are presumed to teach. Most discussion by implication, presumes an ideal model which profiles the practicing professional as equipped with a high level vocabulary, rapid reading speed, good library skills (using indexes, footnotes, and table of contents effectively), motivation, and having time reserved for professional improvement. A research approach to the problem is in order to determine the gap between the ideal model and the average professional as he struggles along in his daily grind. We suggest that the following research possibilities would be relatively simple to carry out and would answer many questions:

1. A measurement of the vocabulary level of the average professional reader should be compared with the vocabulary level of research reports as measured by a vocabulary level formula. It is suspected that the vocabulary level in research reports is higher than the technical vocabulary of the average practitioner. In fact, we have no assurance that Glaser's (1967) excellent simplified rewrite entitled Using what we learn of his three year VRA project can be readily assimilated by the practitioner consumers in the lowest quartile of abilities in vocabulary and reading skills. In Using what we learn we encounter such words as catalyze, component, constituted, cumulatively, embodied, enhance, generates, increments, potentialities, provincialism, modalities, monolithic, receptivity, and salutary. Three social work students working as a group were unfamiliar with the words "contiguous, modalities and salutary" or 19% of the more difficult words encountered.

2. A measurement of the reading speed on research reports of the average reader would offer a basis for computing the number of research reports with which he might become familiar in the time available.

3. Related to point 2, a survey of the actual amount of time reserved and available for professional reading when considered in relation to reading speed would permit an estimate of the amount of reading which actually gets done.

4. A survey of library skills of the average practicing professional would reveal to what extent this breed of reader is able to use tables of contents, indexes, and footnotes as effective route signs in the pursuit of information.

5. A survey of the actual material read by practitioners would serve as a kind of cross validation for the findings from the preceeding research suggestions.

It is probable that service professionals lack time to read. There is a built-in conflict between the number of clients treated and the time available for reading research reports. In the long run, time spent in assimilating new research findings may be recouped in lessening client evaluation or treatment time. For instance, one of the authors over a period of years in counseling, from reading the professional literature, substituted in a test battery shorter tests with approximately the same validity and reliability as the original tests used. The testing time saved, greatly exceeded the time spent in studying the literature. It is likely that a collection of similar examples could document the administrative soundness of providing released time from case services for inservice training.

Attitudinal Barriers to the Dissemination of Research Findings

An analysis of the attitudinal barriers to the dissemination and implementation of research findings goes beyond the mechanical problems of rewriting, filing,

and retrieval and considers the psychological and sociological processes which govern the acceptance and implementation of new research ideas. Professional practitioners frequently perceive research as not offering solutions to the problems with which they are faced. In some instances, this is true; in other instances, it is believed that service professionals fail to make the effort required to locate and put into operation useful research findings.

Example: In using a new psychological test or job sample task, a counselor must be prepared to study carefully the background information on reliability, validity, criteria, and norms.

Some research findings offer new understandings rather than specific techniques. If the service professionals lack the depth of understanding required to comprehend the meaning of the research, it is of no value to them.

Example: The Rogerian counseling technique in the early phases of its dissemination was badly misappraised by so-called counselors who used the techniques without understanding the concepts.

In addition to increased motivation for using the research which they have helped plan, staff participation is essential to improving the quality of the research. If research is to be kept meaningful, it must be subjected to the ctitical scrutiny of the experienced practitioners.

Some service professionals, especially those with considerable experience, are basically distrustful of research findings. They tend to give greater weight to knowledge gained from clinical experience. With the relatively limited research

knowledge now available, the insights gained from clinical experience frequently do exceed those gained from research. Occasionally, research findings have had to be completely discounted because they were so far out of line withaccepted clinical wisdom. There have been many more instances where research, although valid, has been meaningless because it has been concerned with trivia. As the accumulated body of research knowledge grows, knowledge based on clinical experience will be less valued than research based on knowledge.

The force of peer group pressures toward absorbing new research ideas is aided by inservice training conducted by different professionals. When each professional has the responsibility of reading and reporting on a specific piece of research to his co-workers, he becomes much more aware of research meanings. The practitioner wants and needs to be told how to proceed, not merely that a given goal is desireable.

At any given time or place the incorporation of a desirable new idea may be dysfunctional for either the agency, the individual or both. By dysfunctional we mean that it hinders rather than helps the total functioning of the agency or the individual.

1. The Agency--In some agencies the rate of adopting new procedures is so rapid that the staff becomes exhausted and confused by trying to adapt to too much too soon. Thus, despite its merits, the introduction of any given idea at a particular time and place will be dysfunctional to the total agency program. In another instance an idea of great merit by itself may conflict with the operation of another idea of even greater merit (either old or new) and hence its adoption may be dysfunctional to the total operation of the agency.

The introduction of a new idea may require that a particular staff member be given special equipment or priveleges which may be interpreted as favoritism by other staff members. For instance, a counselor may decide that a more favorable relationship with his clients may result from having a third chair in his office so that he may sit away from his desk while interviewing. If there are ten counselors in the agency, the agency may not be financially able to immediately provide all ten counselors with an extra chair. If one counselor receives a third chair, the remaining nine counselors may feel discriminated against.

2. The Individual--It may be dysfunctional for an individual professional to introduce innovations in his professional practice at a more rapid rate than his supervisor, peers, or the rest of the agency are able and willing to accept. He may threaten their statuses or values or merely introduce minor inconveniences into their work life. A professional who is too innovative may be relegated to a marginal role in the work group by his peers.

Summary

We have attempted to offer some practical guidelines in four areas of rehabilitation research information dissemination: (a) filing and retrieval problems; (b) level and styles of writing, listing, abstracting, summarizing, and reconceptualizing; (c) profiling the average practitioner-consumers; and (d) leveling attitudinal barriers. Like electricity, research based on knowledge lights no lights until used.

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